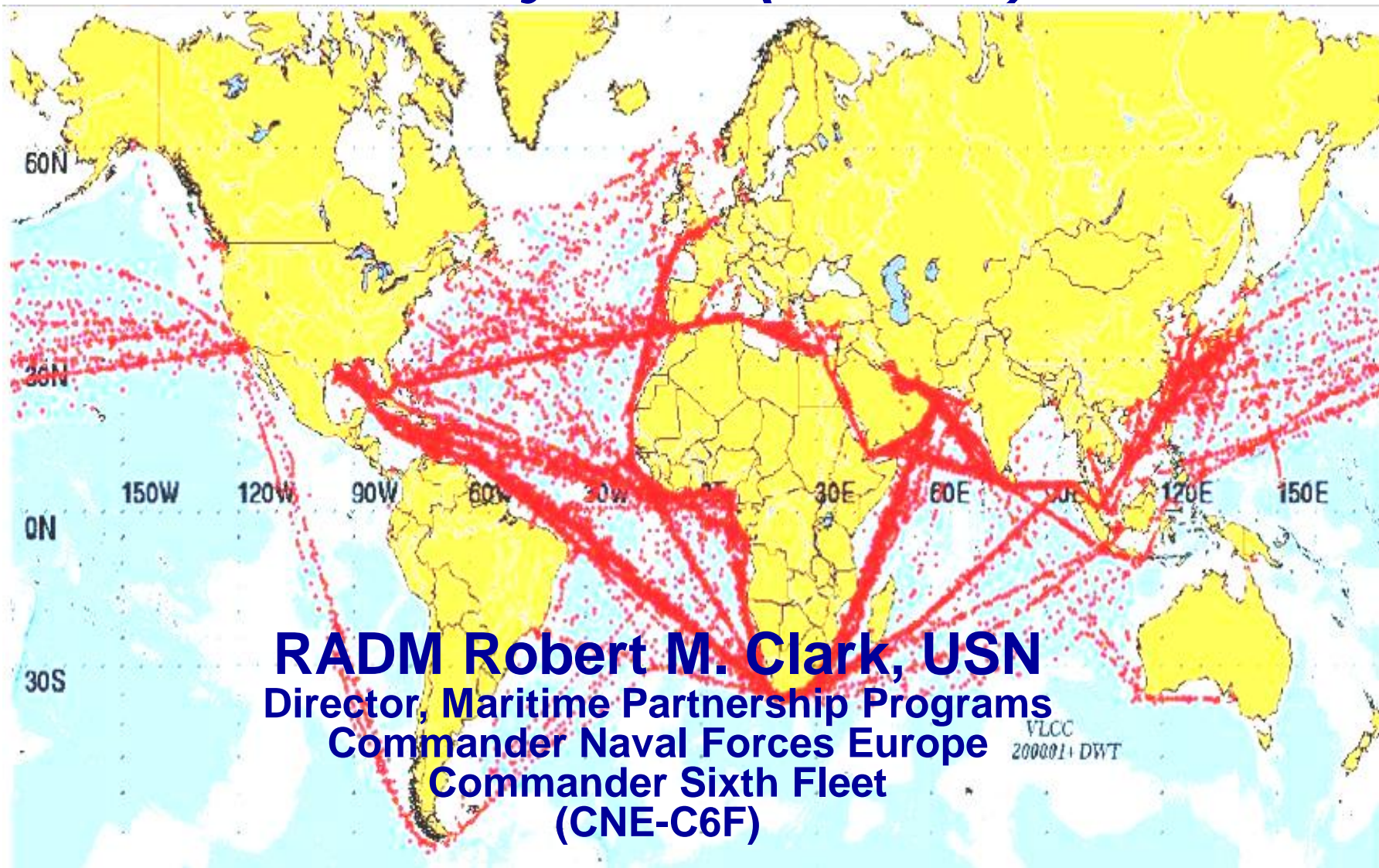




# ***Maritime Security Safety Information System (MSSIS)***





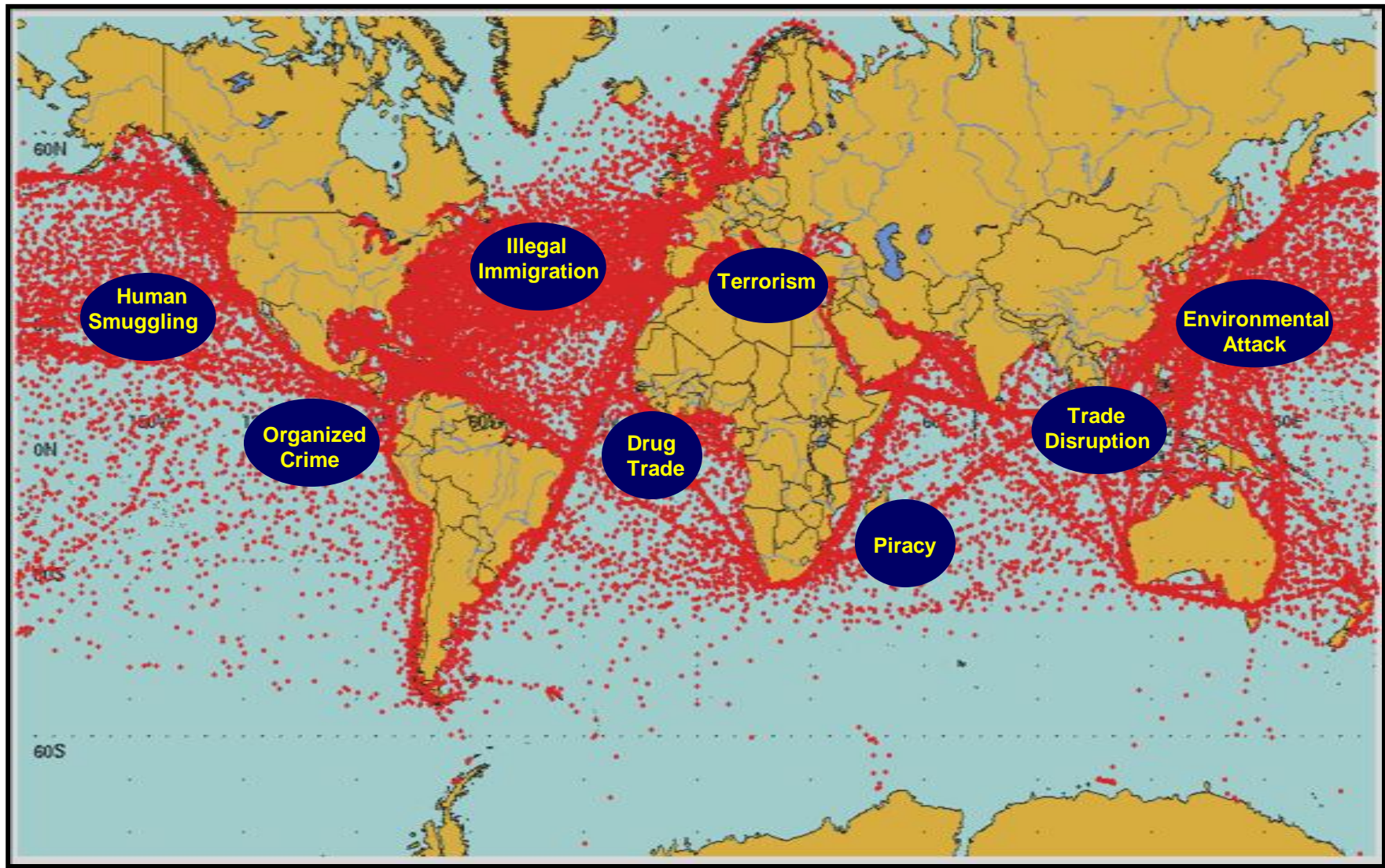
# ***Today's Discussion***

- ***Why We need Maritime Domain Awareness***
- ***Guiding Principals of MDA***
- ***What is the Maritime Security and Safety Information System (MSSIS)?***
- ***Displays of MSSIS Data***
- ***Who can and is Participating Today?***
- ***International Outreach and Coordination Strategy***
- ***Benefits to Success***
- ***The Next Steps Forward***





# *Why ?*





# ***Maritime Challenges***

- ***Smuggling***
- ***Fisheries violations***
- ***Oil theft***
- ***Illegal immigration***
- ***Drug trafficking***
- ***Human trafficking***
- ***Environmental degradation***
- ***Piracy***
- ***Terrorism***
- ***Criminal activity***





## ***Guiding Principles for MDA***

- ***Regional problems require regional solutions***
- ***Interagency teamwork - Not just navies and traditional partners***
- ***Be Transparent - Share information widely***
- ***Keep it simple, keep it low cost***
- ***Keep it UNCLASSIFIED - Needless classification weakens the network***
- ***Network Based - Leverage the Internet***
- ***Open Architecture – The Tools are Out There***
- ***CNE-C6F provides the software and updates***



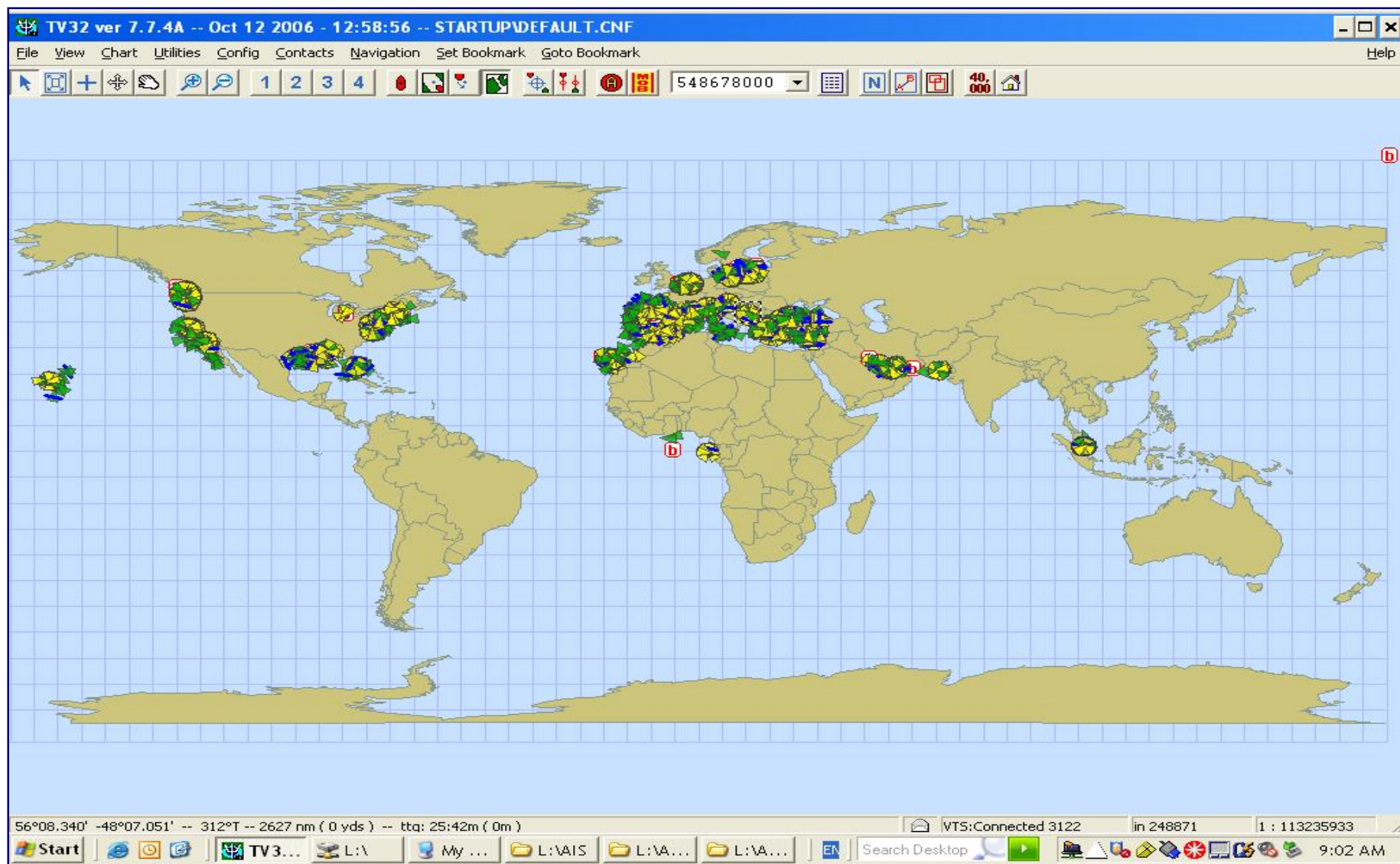
## ***What is MSSIS ?***

- ***The First Step in Maritime Domain Awareness***
- ***Builds trust***
- ***Shares unclassified maritime information***
- ***Internet-based sharing of AIS data***
- ***Unclassified – with internet security protocols***
  - ***Secure Socket Layer (SSL)/ Password Banking protocols***
- ***Only Authorized Users***
- ***Data is open source and freely shared***
- ***Data is NOT fused, analyzed or stored in MSSIS***





# ***MSSIS Global Display***





## ***MSSIS – Minimum Equipment***

- Commercial AIS equipment
  - Antenna, Transceiver, Global Positioning System (GPS)
- Computer (required for map view)
- Internet connectivity

AIS VHF Antenna

Secure Socket Layers-SSL  
Password protection







# What is AIS?



§ AIS allows automatic exchange of shipboard information from the vessel's sensors, including static and voyage related data between one vessel and another and between a vessel and a shore station(s).

§ AIS is a commercial shipboard broadcast transponder system operating in the Very High Frequency (VHF)(161.975 & 162.025 MHz) maritime band.

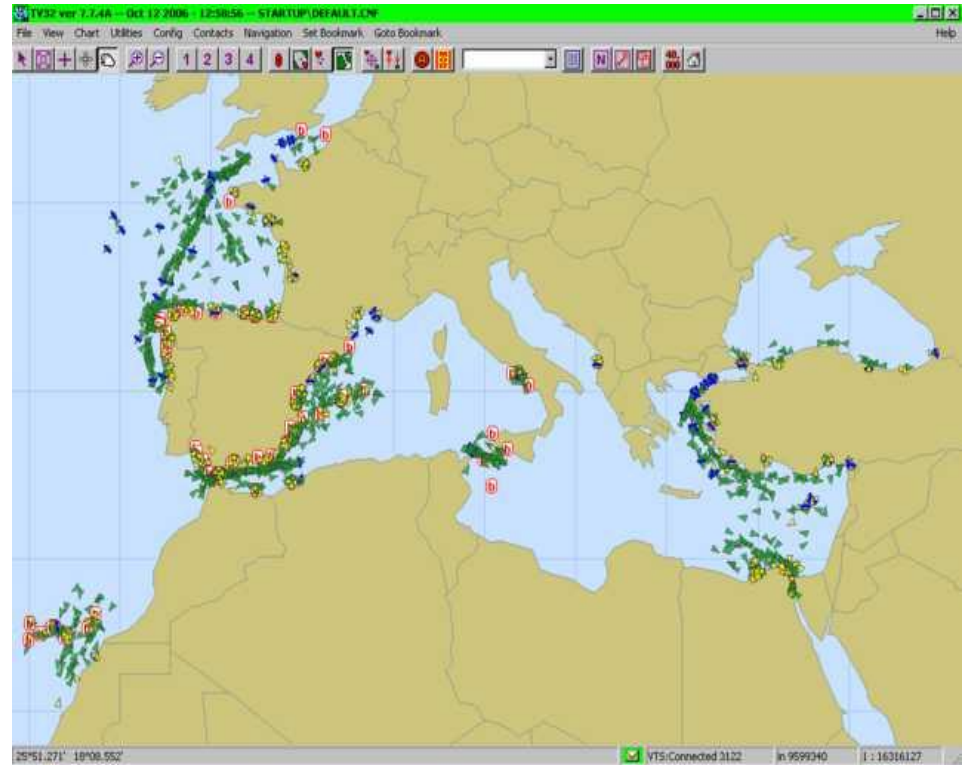
§ A standard system receives Global Navigation Sensor System (GNSS)(L1 Band) information; and automatically sends and receives vessel information, including:

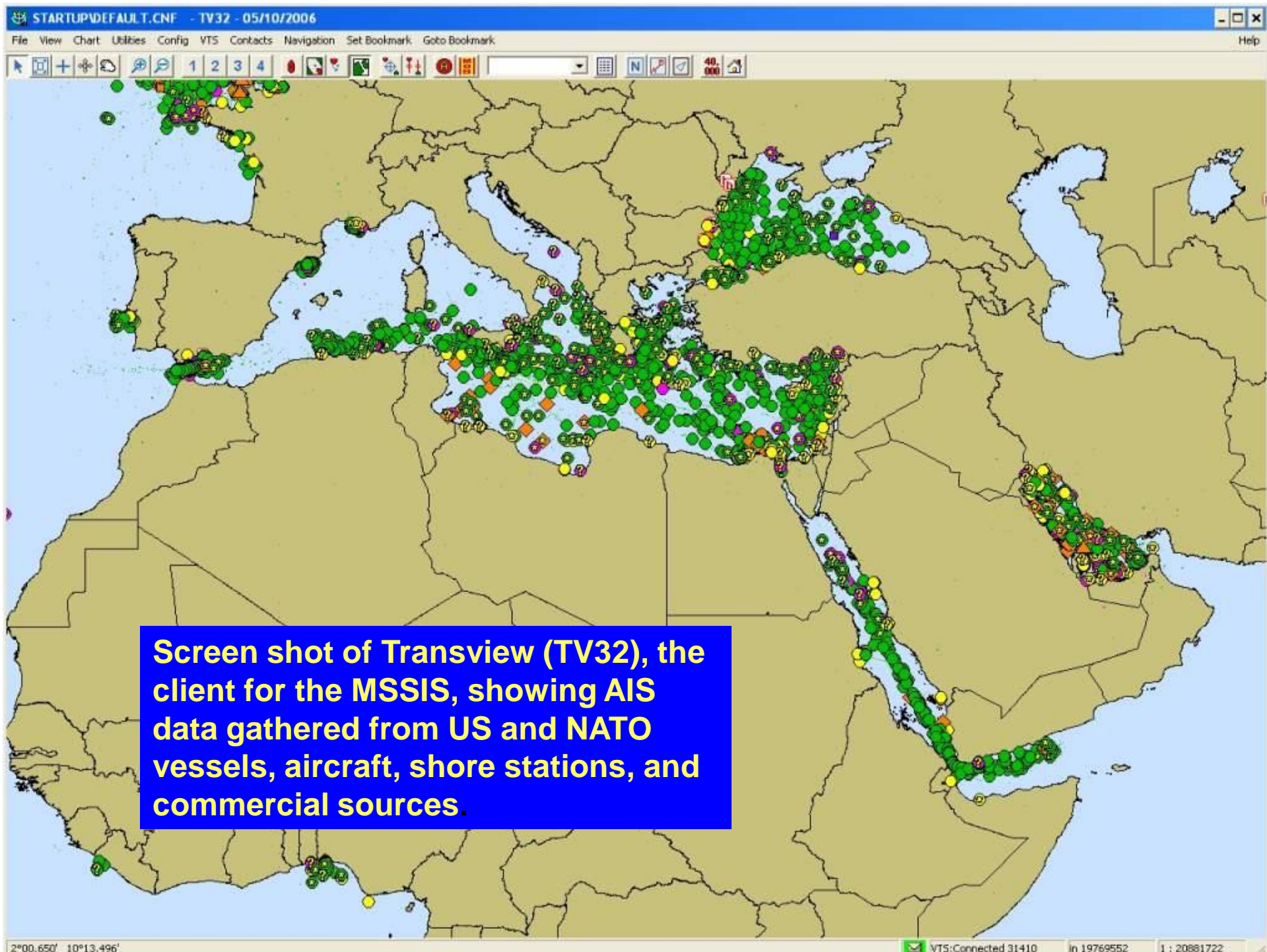
- Vessel Name
- IMO Number
- Maritime Mobile Service Identity (MMSI) number
- Vessel Call Sign
- Vessel Type
- Geographic Position (Latitude & Longitude)
- Course Over Ground (COG)
- Speed Over Ground (SOG)
- Rate of Turn (ROT)
- Draft
- Gross Tonnage



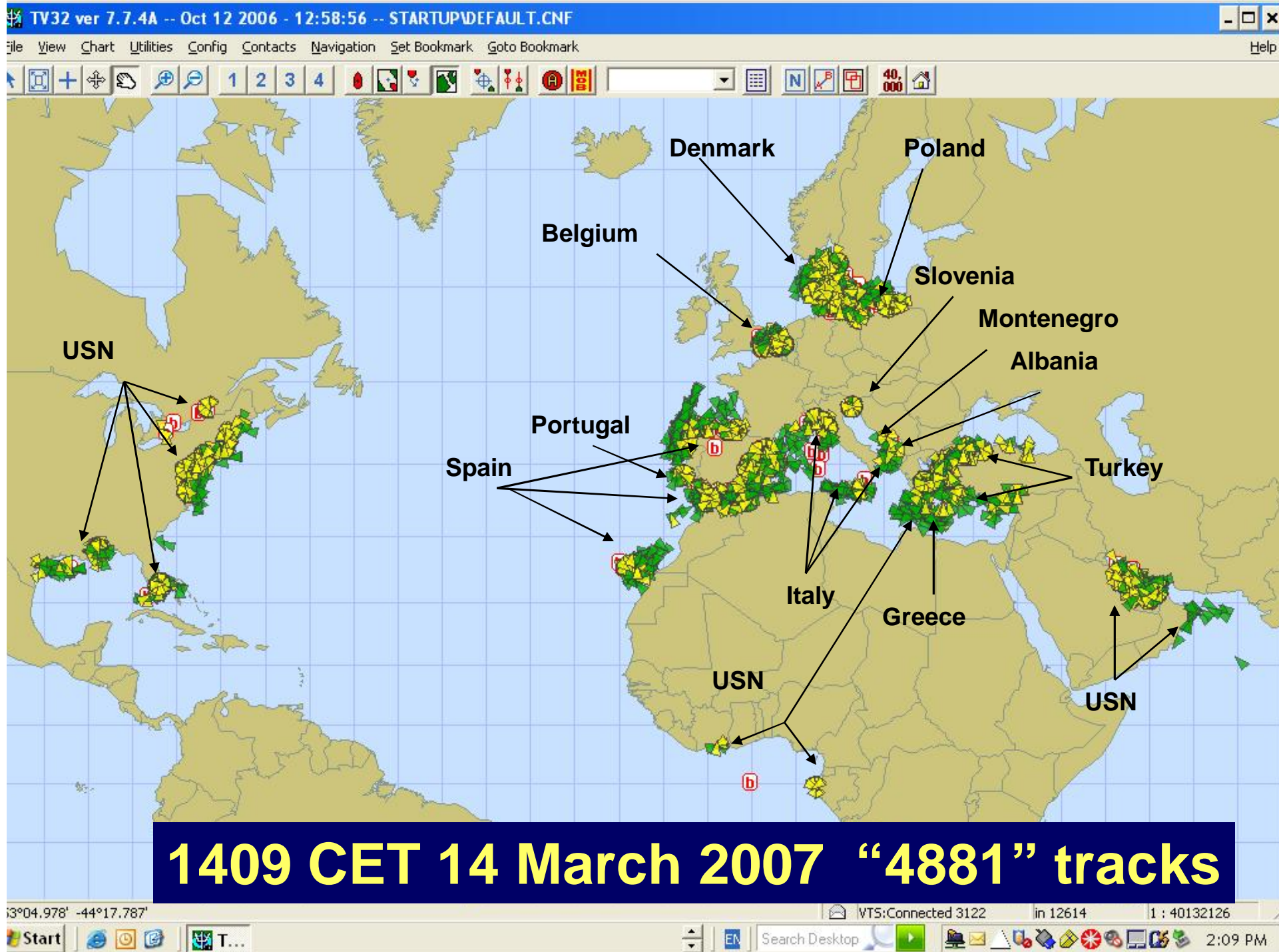
## *How is CNE-C6F Using AIS?*

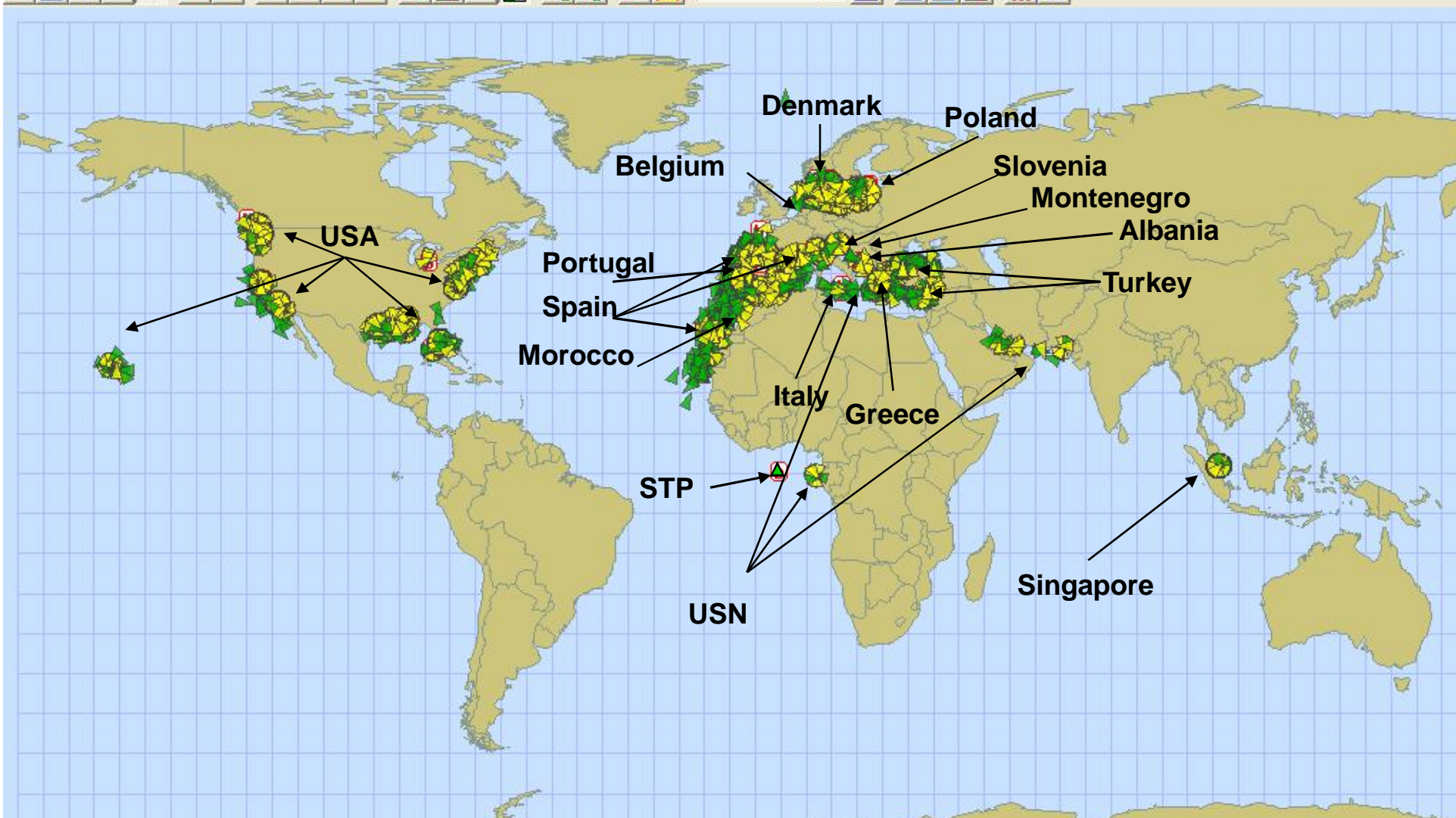
- The Volpe National Transportation Systems Center developed MSSIS
- The CNE-C6F MSSIS network consists of all AIS data from both **mobile** and **stationary** platforms for real-time MDA with multiple users through a web-based password-protected system
- Now that MSSIS is operational, CNE-C6F is demonstrating it's capabilities to Coastal Nations throughout the European Command (EUCOM) area of responsibility (AOR) with the goal that these nations will partner with U.S. efforts to enhance Maritime Security and Safety









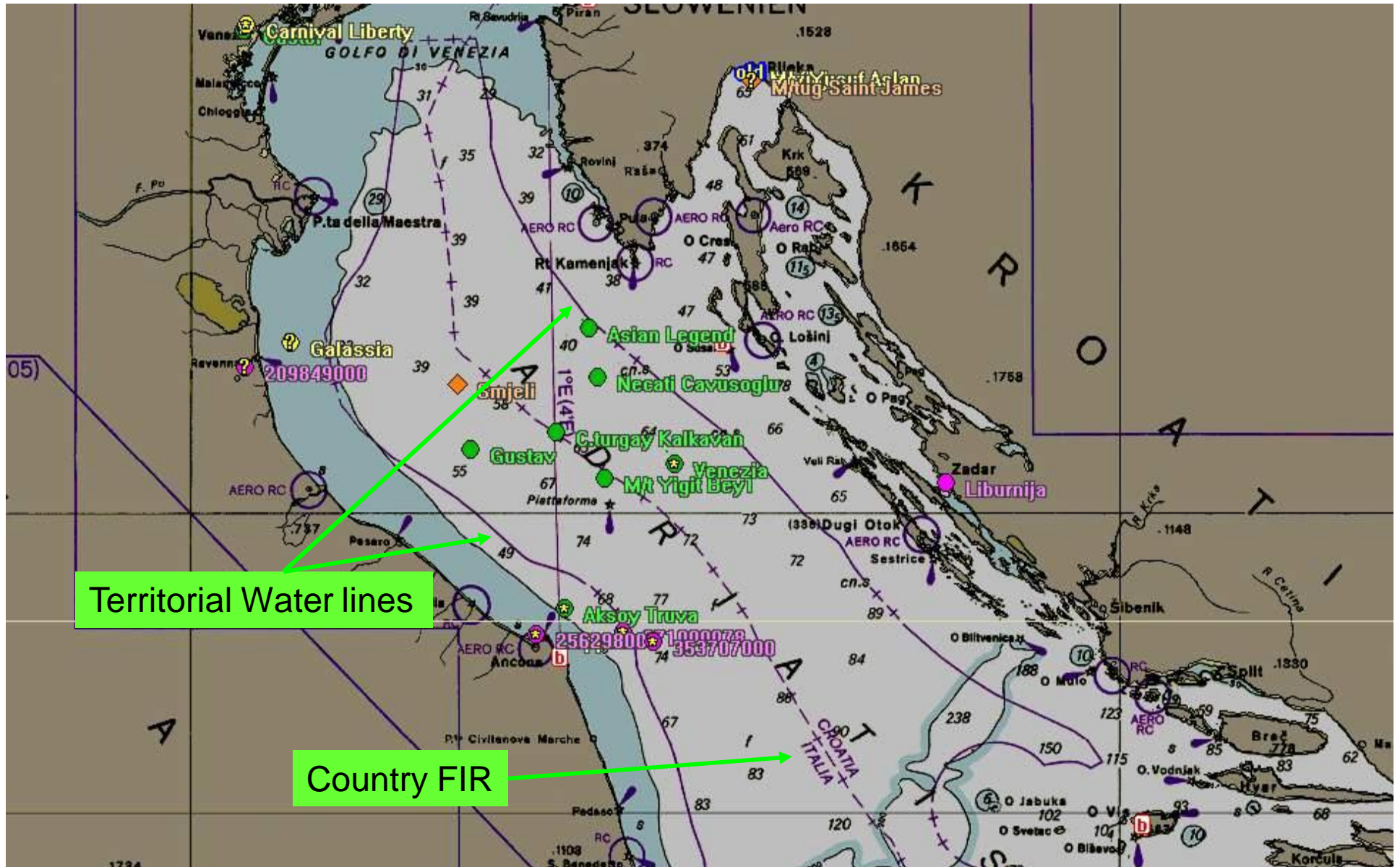


**1156 CET 14 MAR 2007 “6629” total tracks**





# TV32 w/Raster Chart





# Using Google Application

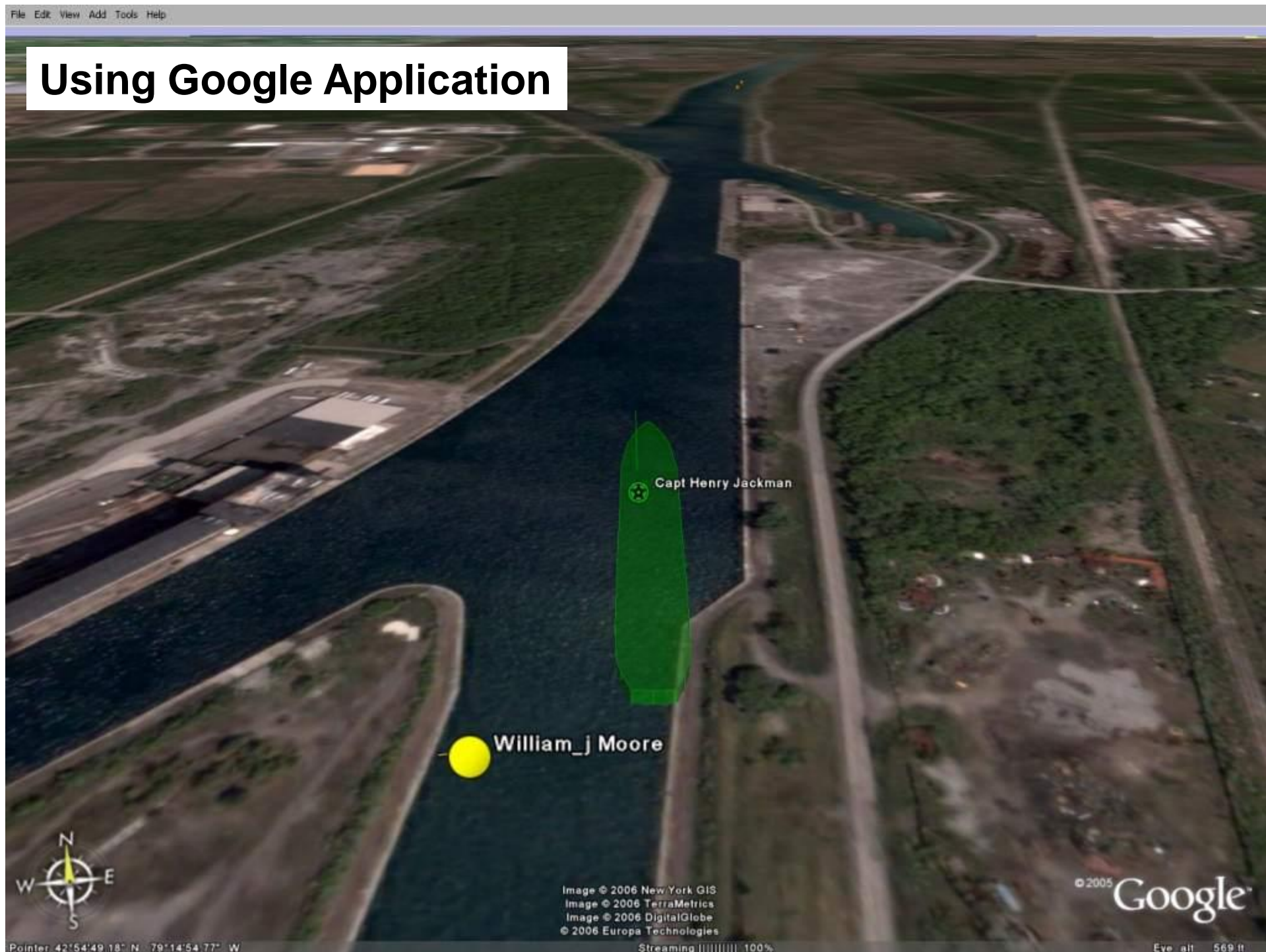


Image © 2006 New York GIS  
Image © 2006 TerraMetrics  
Image © 2006 DigitalGlobe  
© 2006 Europa Technologies

© 2005 Google

Pointer: 42°54'49.18" N 79°14'54.77" W

Streaming [|||||] 100%

Eye alt: 569 ft



1 2 3 4 311315000 N 40.000



**Vessel Data Card**

Static | Position | Extra | CPA | Alarms

☒ Schd# 311315000 311315000

☒ Name Grandeur Of The Seas IMO# 9102978

☐ Callsign C6SE3 Remove << >>

☐ Type 6-Passenger

☐ Cargo 0-AllShips

Destination Boston

Dest ETA Sep 14 10:00 UTC

Region flag 0 POB 0

☐ Nav 0-Underway(Engine)

☐ Pilot

☐ VHF 0

Antenna Offsets...

from bow 144'4"

from port 52'6"

Save to File Disp# 0

☒ Vessel

☒ Bubble

☒ Labels

Set All

OK Cancel Apply



# ***MSSIS: Who Can Participate?***

## **Who can Participate:**

- Any Nation's
  - Interagency
  - Navies
  - Coast Guards
  - Law enforcement
  - Border Patrol
  - Ministries
- Commercial shipping companies

***All Legitimate Actors in the Global Maritime Domain can participate***





## ***Who is Participating Today?***

- ***Military participants as of February 2007:***
  - § ***USN ships, aircraft and submarines***
  - § ***NATO ships, aircraft and submarines***
- ***National participants as of February 2007:***

***Albania  
Belgium  
Denmark  
Greece  
Italy  
Poland***

***Slovenia  
Spain  
Turkey  
United States  
United  
Kingdom***

***Singapore  
Sao Tome &  
Principe  
Portugal  
Morocco***

***Our 2007 Goal: ADD 25 Nations to MSSIS***

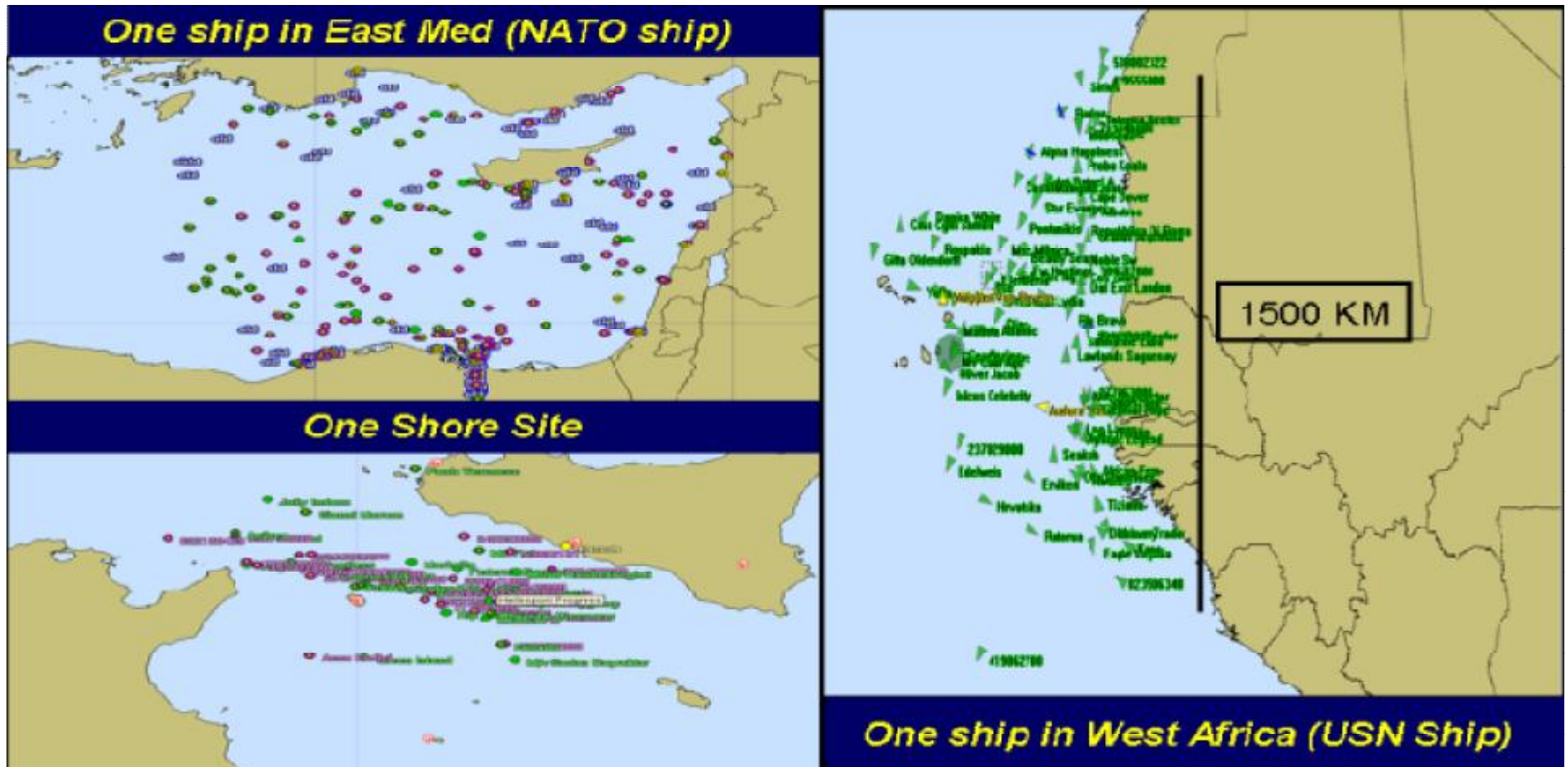


# ***International Outreach and Coordination Strategy***

- ***Includes strategic goal of enhanced outreach to Foreign Governments to solicit support for improved Global Maritime Security***
- ***Objectives to reach this goal are:***
  - § ***(1) Build partnerships with other countries***
  - § ***(2) Coordinate U.S. technical assistance to promote effective maritime security in developing Nations and critical regions***
  - § ***(3) Provide U.S. missions abroad with guidance to enable them to build support for U.S. Maritime Security Initiatives with Host Governments***



***Note: The power of 1 sensor ...***

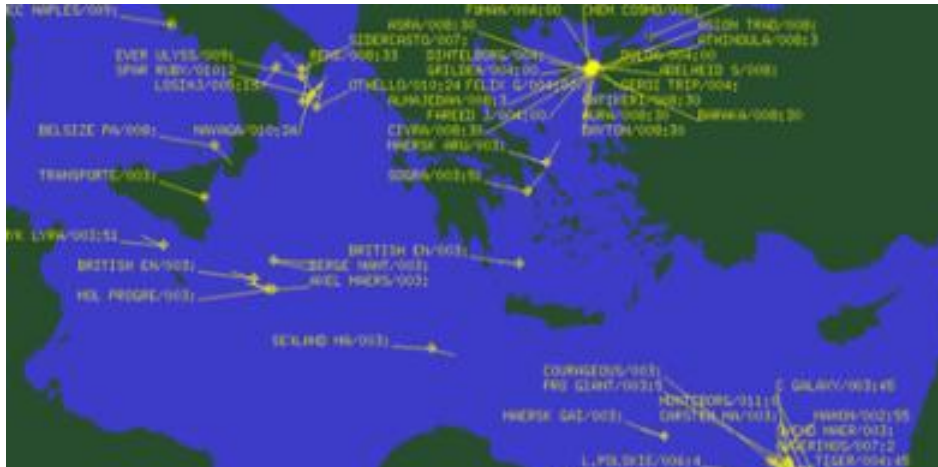


***Determine funding sources with authority to expand international contribution***

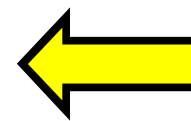




## ***...Strengthens the Network!***



### ***GCCS without MSSIS***



60 contacts

**20 min to 72 hours time late**

***How do you find the needle without the haystack?***

### ***GCCS with MSSIS***

1583 contacts 

**1-5 minutes time late**



***Simple architecture, low cost, partner contributions!***



## ***MSSIS Benefits***

- ***Theater Security Cooperation***
- ***Information sharing on a global scale***
- ***Insurance and Commercial benefits***
- ***Low cost: Commercial off the Shelf (COTS) equipment***
- ***Technically simple***
- ***Provides a Common Operational Picture (COP) with emerging partners***
- ***Levels the playing field***
- ***Everyone can participate, everyone can benefit!***



# ***What is the Next Step for MSSIS?***

## ***What You Need***

### **•AIS Receivers**

Identifies and locates vessels broadcasting AIS signal

### **•DATA sharing**

Commercially secure AIS network with Europe and the U.S.

### **•RADAR**

Easily fused into the AIS network to add locating data

### **•UHF/VHF Radios**

Aids in the identification process

## ***How Much it Costs***

### **AIS Network Equipment list**

AIS antenna, display and transponder ~\$2500

Computer ~\$1500

ADSL internet – local rates

VOLPE AIS program – FREE

CNE-C6F updates - FREE

*\*This investment gets you connected*

### **Coastal RADAR**

Integrated Coastal RADAR

~ \$150,000

RADAR Tower

### **UHF/VHF Radios**

Radio < \$5,000

Radio Tower

## ***Point of Contacts***

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Email: [josey.wales@eu.navy.mil](mailto:josey.wales@eu.navy.mil)

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Email: [jay.magers@eu.navy.mil](mailto:jay.magers@eu.navy.mil)





# *Questions*

